

Notice of Allowability

Application No.

09/909,497

Examiner

Dah-Wei D Yuan

Applicant(s)

BAUERLEIN, PETER

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 6/1/04.
2. ☒ The allowed claim(s) is/are 1-12.
3. ☒ The drawings filed on 20 July 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

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Ni/METAL HYDRIDE SECONDARY ELEMENT

Examiner: Yuan S.N. 09/909,497 Art Unit: 1745 October 7, 2004

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 16, 2004 has been entered. Claims 1,3,4,9,10,12 were amended.

2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action issued on October 3, 2003.

Examiner's Amendment

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

4. Authorization for this examiner's amendment was given in a telephone interview with Mr. Marcus W. Sprow on October 7, 2004. The application has been amended as follows:

In claim 12, line 4, after "cobalt" add "oxide".

Claim Rejections

5. The claim rejections under 35 U.S.C. 103(a) as obvious over Hayashi and Yano et al. on claims 1-12 are withdrawn because the independent claims 1,9,10,12 have been amended.

Reasons for Allowance

6. Claims 1-12 are allowed. The invention of independent claim 1 recites a Ni/metal hydride secondary battery comprising a negative electrode comprising a hydrogen storage alloy, an alkaline electrolyte and a positive electrode comprising a mixture of nickel hydroxide, cobalt oxide and an aluminum compound, wherein the aluminum compound is provided as a coating of $\text{Al}(\text{OH})_3$ on the surface of at least one of the positive electrode and the nickel hydroxide when the battery is charged. The closest prior arts of record, Hayashi and Yano, do not teach or suggest the positive electrode comprising a bulk material mixture of nickel hydroxide, cobalt oxide and an aluminum compound as recited in the claim. The invention of independent claim 9 recites a Ni/metal hydride secondary battery comprising a negative electrode comprising a hydrogen storage alloy, an alkaline electrolyte and a positive electrode comprising a mixture of nickel hydroxide, cobalt oxide and an aluminum compound selected from the group consisting of a aluminum oxide and aluminum hydroxide in powder form, wherein the aluminum compound becomes dissolved into the electrolyte and modifies surface portions of the positive electrode when the battery is charged. The closest prior arts of record, Hayashi and Yano, do not teach or suggest the positive electrode comprising a bulk material mixture of nickel hydroxide, cobalt oxide and an aluminum compound selected from the group consisting of a aluminum oxide and

aluminum hydroxide in powder form a Ni/metal hydride secondary battery. The invention of independent claim 10 recites a Ni/metal hydride secondary battery comprising a negative electrode comprising a hydrogen storage alloy, an alkaline electrolyte and a positive electrode comprising a mixture of nickel hydroxide, cobalt oxide and an aluminum compound, wherein the aluminum compound becomes dissolved into the electrolyte and form a film of $\text{Al}(\text{OH})_3$ on surface portions of the positive electrode when the battery is charged. The closest prior arts of record, Hayashi and Yano, do not teach or suggest the positive electrode comprising a bulk material mixture of nickel hydroxide, cobalt oxide and an aluminum compound, wherein a film of $\text{Al}(\text{OH})_3$ on surface portions of the positive electrode is formed when the battery is charged. The invention of independent claim 12 recites a method of forming an active positive electrode in a battery comprising mixing nickel hydroxide, cobalt oxide and a powder of an aluminum compound to form a bulk material, causing portions of the aluminum compound to dissolve into the electrolyte by charging the battery and forming a film of $\text{Al}(\text{OH})_3$ on the surface portions, thereby activating the positive electrode. The closest prior arts of record, Hayashi and Yano, do not teach or suggest a method of forming an active positive electrode comprising mixing the bulk material of nickel hydroxide, cobalt oxide and an aluminum compound and forming a film of $\text{Al}(\text{OH})_3$ on surface portions of the positive electrode when the battery is charged.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dah-Wei D. Yuan whose telephone number is (571) 272-1295. The examiner can normally be reached on Monday-Friday (8:00-5:00).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dah-Wei D. Yuan
October 8, 2004

A handwritten signature in black ink, appearing to read 'Dah-Wei D. Yuan', with a stylized flourish at the end.